

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. Claims 1, 2, 8, 14-16, 19, 22, 25, 29, 33 have been cancelled. Claims 3-5, 9-13, 14-16, 17-18, 20-21, 23-24, 26-28, 30-32, 25-32, 34 and 36 have been amended.

1. (Cancelled)
2. (Cancelled)
3. (Currently amended) The air induction system of claim 2 32, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.
4. (Currently amended) The air induction system of claim 2 32, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.
5. (Currently amended) The air induction system of claim 1 32, ~~wherein said structure further comprises a diffuser in communication with said expansion chamber,~~ wherein said diffuser has an interior that is generally conical in shape and comprises a cone angle that establishes an expansion rate of a cross-sectional area encompassed within said diffuser.
6. (Original) The air induction system of claim 5, wherein said cone angle is in the range of approximately 4 to approximately 16 degrees.

7. (Original) The air induction system of claim 5, wherein said cone angle is approximately 12 degrees.

8. (Cancelled)

9. (Currently amended) The air induction system of claim 8 5, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

10. (Currently amended) The air induction system of claim 8 5, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

11. (Currently amended) The air induction system of claim 8 9, wherein said cone angle is in the range of approximately 4 to approximately 16 degrees.

12. (Currently amended) The air induction system of claim 8 9, wherein said cone angle is approximately 12 degrees.

13. (Currently amended) The air induction system of claim 4 32, wherein said expansion chamber has a cross-sectional area lowering flow velocity through said expansion chamber to less than 75 m/s.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Currently amended) The air induction system of claim ~~16~~ 34, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

18. (Currently amended) The air induction system of claim ~~16~~ 34, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

19. (Cancelled)

20. (Currently amended) The air induction system of claim ~~19~~ 34, wherein said means for both restoring pressure head after said airflow has traveled at least a portion of said clean air channel and redirecting said airflow at least approximately 90 degrees from a direction of said airflow exiting said outlet of said air filter to a direction of said airflow entering said inlet of said turbocharger comprises a diffuser having a cone angle is in the range of approximately 4 to approximately 16 degrees:

21. (Currently amended) The air induction system of claim ~~19~~ 20, wherein said cone angle is approximately 12 degrees.

22. (Cancelled)

23. (Currently amended) The air induction system of claim ~~22~~ 20, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

24. (Currently amended) The air induction system of claim ~~22~~ 20, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

25. (Cancelled)

26. (Currently amended) The air induction system of claim ~~25~~ 32, wherein said clean air channel redirects said airflow, ~~wherein said airflow travels in a direction exiting an outlet of said air filter being~~ at least approximately 180 degrees from an outlet of said air filter to a direction of said airflow entering said inlet of said turbocharger.

27. (Currently amended) The air induction system of claim 5, wherein said diffuser is an angular diffuser that redirects said clean induction airflow at least approximately 90 degrees.

28. (Currently amended) The air induction system of claim 5, wherein said diffuser and said expansion chamber each redirect the direction of said clean induction airflow within said clean air channel at least approximately 90 degrees.

29. (Cancelled)

30. (Currently amended) The air induction system of claim ~~29~~ 34, wherein said clean air channel redirects said airflow, ~~wherein said airflow travels in a direction exiting an outlet of said air filter being~~ at least approximately 180 degrees from an outlet of said air filter to a direction of said airflow entering said inlet of said turbocharger.

31. (Currently amended) The air induction system of claim ~~30~~ 35, wherein said ~~clean air channel further~~ diffuser comprises an angular diffuser in fluid communication with said expansion chamber at approximately a 90 degree angle between a direction of said airflow exiting an outlet of the angular diffuser and a direction of said airflow exiting an outlet of said expansion chamber.

32. (Currently Amended) An air induction system for inducing airflow into the intake of an internal combustion engine having a turbocharger, said system comprising:

an air filter operable to clean air drawn from an air intake; and

a clean air channel ~~in fluid~~ having one end connected with an outlet of said air filter and another end connected with an inlet of the turbocharger so that an airflow is formed therein, said airflow comprises a flow of clean air within said air induction system, said clean air channel having a structure operable to restore pressure head and subsequently increase the velocity of said airflow, wherein the structure comprises:

a diffuser ~~being configured to have an interior surface that both~~ longitudinally having portions defining a smooth bend of said clean air channel that is operable to redirect the direction of said airflow, the diffuser increasing increases in cross-sectional area and radially diverts a flow of said airflow from a diffuser inlet to a diffuser outlet; and

an expansion chamber in fluid communication with and located downstream of said diffuser, the expansion chamber being configured to divert the flow of said airflow, wherein said airflow is directed to an inlet of said turbocharger, said expansion chamber having a cylindrical wall closed at one end by a substantially flat wall and being connected to said diffuser outlet through said cylindrical wall, said expansion chamber also having a cross-sectional area that is greater than a cross-sectional area of said diffuser outlet; and

a bell-mouth transition positioned between an expansion chamber outlet and said inlet of the turbocharger, said bell-mouth transition having a bell-mouth outlet connected to said inlet of the turbocharger and defining a cross-sectional area at said bell-mouth outlet that is less than said cross-sectional area of said expansion chamber.

33. (Cancelled)

34. (Currently amended) An air induction system for inducing airflow into the intake of an internal combustion engine having a turbocharger, said system comprising:

an air filter operable to clean air drawn from an air intake; and

a clean air channel in fluid communication with an outlet of said air filter so that an airflow is formed therein, said clean air channel having one end directly coupled or connected to an outlet of said air filter and the other end of said clean air channel being directly coupled or connected to an inlet of said turbocharger, said clean air channel having a structure located in front of an inlet to said turbocharger operable to restore pressure head and subsequently increase the velocity of said airflow, wherein the structure comprises

means for both restoring pressure head after said airflow has traveled at least a portion of said clean air channel and redirecting said airflow at least approximately 90 degrees from a direction of said airflow exiting said outlet of said air filter to a direction of said airflow entering an said inlet of said turbocharger; and

a bell-mouth transition positioned between said structure and said inlet of the turbocharger, said bell-mouth transition having a bell-mouth outlet connected to said inlet of the turbocharger and defining a cross-sectional area at said bell-mouth outlet that is less than said cross-sectional area of said structure.

35. (Previously presented) The air induction system of claim 34, wherein said means for restoring pressure head after said airflow has traveled at least a portion of said clean air channel and redirecting said airflow at least approximately 90 degrees from a direction of said airflow exiting said outlet of said air filter to a direction of said airflow entering an inlet of said turbocharger comprises a diffuser in fluid communication with an expansion chamber.

36. (Currently amended) The air induction system of claim 35, wherein said system redirects said airflow, ~~wherein said airflow travels in a direction exiting said outlet of said air filter being~~ at least approximately 180 degrees from said outlet of said air filter to a direction of said airflow entering said inlet of said turbocharger.